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ABSTRACT

This report examines previous research on school desegregation effects and suggests new research directions to provide information for policy deliberations. The current imbalance in school desegregation research is attributed to unresolved technical disputes in policy debates, the limitation of debate topics relevant for research, and the absence of a strong theory of social mobility, community power, or discrimination to support research studies. A review of the desegregation effects on black students shows a general additive incremental effect on attendance at desegregated colleges from each extra year of earlier experience in desegregated elementary or secondary schools. This evidence indicates that other adult outcomes such as employment or housing attainments may be significantly influenced by desegregation in elementary and secondary schools. A consideration of the long term outcomes of school desegregation and its implications for policy deliberations suggest the need to identify the processes that exclude qualified minorities from promising opportunities as well as compare both institutional and individual behavior in an effort to explain the problems of minority social mobility and segregation. (JCD)

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ASSESSING SCHOOL DESEGREGATION EFFECTS:

NEW DIRECTIONS IN RESEARCH

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Introductory Statement

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through five programs to achieve its objectives. The Studies in School Desegregation program applies the basic theories of social organization of schools to study the internal conditions of desegregated schools, the feasibility of alternative desegregation policies, and the interrelations of school desegregation with other equity issues such as housing and job desegregation. The School Organization program is currently concerned with authority-control structures, task structures, reward systems, and peer group processes in schools. It has produced a large-scale study of the effects of open schools, has developed Student Team Learning Instructional processes for teaching various subjects in elementary and secondary schools, and has produced a computerized system for school-wide attendance monitoring. The School Process and Career Development program is studying transitions from high school to post secondary institutions and the role of schooling in the development of career plans and the actualization of labor market outcomes. The Studies in Delinquency and School Environments program is examining the interaction of school environments, school experiences, and individual characteristics in relation to in-school and later-life delinquency.

The Center also supports a Fellowships in Education Research program that provides opportunities for talented young researchers to conduct and publish significant research, and to encourage the participation of women and minorities in research on education.

This report, prepared by the Studies in School Desegregation program, examines previous research on school desegregation effects and suggests new research directions to provide useful information for policy deliberations about desegregation.

Abstract

Questions about the impact of school desegregation lie in the realm of social science research. This paper examines some of the shortcomings and dangers of that research and indicates new research directions that could contribute more useful policy information.

School desegregation policies should be formulated on the basis of the best evidence about the costs and benefits for the major parties involved. What has been largely missing from the deliberations on this issue is clear evidence on the long-run consequences of individual attendance at racially mixed elementary or secondary schools and the eventual community structures that follow experience with school desegregation programs (McPartland, 1978). Instead, the research evidence has primarily focused on the short-term outcomes for students, such as academic test scores and racial attitude measures, and on the reactions of different publics to the desegregation controversy, such as estimates of white student withdrawals from desegregating schools and surveys of opinion on desegregation topics.

As the debates continue on the future of public programs to foster school desegregation, more research attention must be focused on whether the attainment of racial equity and desegregation in adult life depends to any important degree on the racial character of elementary-secondary schooling.

Studies in the area of school desegregation provide an interesting vantage point for examining the use of social research in public policy deliberations, because social science evidence has been used at each stage of the policy formulation process (Lynn, 1978; Weiss, 1978). At different stages of the debates about school desegregation policies, different problems in the availability and use of social research have appeared. To examine these problems we will briefly review how research has and has not entered at three points in the process: when broad theoretical frameworks on the etiology of major social problems are sought to identify general points of public policy intervention; when evidence is accumulated on the actual costs and benefits of current policy to decide how well it is working in the typical situation; and when information is needed on the conditioning variables of public policy interventions to identify the implementation supports needed for specific programs or to specify the constraints and incentives that affect the feasibility of particular policy alternatives. Following this review, we will offer some new empirical evidence on school desegregation effects as an example of research directions that can address major problems at some of these stages.

I. How Social Research Has and Has Not Entered the Formulation of School Desegregation Policy

School desegregation is an unusual issue because it is argued both as a constitutional question of individual rights and as a public policy question of how to address the social problems of race relations and equity of attainments. Different factual questions are relevant for the constitutional and social policy concerns and different empirical studies are needed in each case. The constitutional question concerns identifying the factors that create segregated schools, and evidence is sought on whether official actions have

directly or indirectly fostered segregation in a local area (Orfield, 1978; Yudof, 1978, 1980). The social policy question involves the effects of school desegregation on individuals and communities, and evidence is required on the short- and long-run consequences of the programs that bring about racially and ethnically mixed schooling. In terms of the familiar social science model of cause and effect, school segregation-desegregation is the dependent variable in the first case and is the independent variable in the second case.

Of course, it is not always so simple in practice to divide the social policy and constitutional issues into questions of school segregation-desegregation as cause or as effect. There is always the complicated question of whether certain desegregation policies themselves create problems for future desegregation--by contributing to the departure from a district of the white students needed for desegregation, for example (Mills, 1979), or whether current school desegregation policies can establish a positive foundation for future interracial schooling--by encouraging a desegregated housing market (Orfield, 1980) or by fostering positive attitudes in future parental generations toward school desegregation (Crain, 1970). Nevertheless, it is useful when thinking about the use of social research in school desegregation debates to divide the issue into evidence on the local sources of school segregation and evidence on the impact of school desegregation on individuals and institutions. Most of the time legal research teams provide the detailed evidence in local situations on the sources of segregated schools, but we are particularly dependent upon the techniques and efforts of social science researchers to empirically investigate the school desegregation impact questions. However, the recent history of social science contributions to these questions indicates major shortcomings and dangers.

First, social science research has focused primarily on the gross effects of school desegregation as typically practiced, rather than on specifying the conditions upon which desegregation may depend. Consequently, research has provided few clear leads on how to best implement current school desegregation policy, or on what tradeoffs are involved in specific alternative policies to achieve school desegregation.

Research has not been very helpful with practical questions of implementation or alternatives, even though clear practical questions have been raised in the policy debates. While new student and staff assignment plans are drawn in different school districts each year for the purpose of desegregation, research has provided few leads on the advantages and disadvantages of different racial and social class combinations of students and staff at different grade levels in schools of different sizes (Crain and Mahard, 1979a). Although legislation and litigation are currently considering alternative desegregation policies that contrast mandatory or voluntary approaches and within-district or cross-district areas, few empirical studies have identified how specific incentives and constraints can affect the way each alternative would work (Meadows, 1976). And despite the fact that millions of federal dollars are dispensed each year for technical assistance and support services in desegregated districts, limited research is available to direct these funds toward dependable approaches for improving the relevant community climates or internal school practices.

Instead of directly studying different approaches and practices for school desegregation, most research has examined the effects of desegregation "on the average," as "typically" practiced, with little regard to alternatives or implementing conditions (St. John, 1972; Crain and Mahard, 1979a, 1979b). To account for this research imbalance, some writers have

noted that academic career incentives draw researchers toward "basic research" studies of broad theoretical issues, and away from "applied" studies of the detailed comparisons that would be of most use to address practical questions (Crain, 1976). In support of this view, it appears that the few existing direct studies of implementation and policy alternative questions were usually generated by funding of research contracts through government Requests for Proposals (RFPs) that specified the exact research questions (e.g., Forehand et al., 1976; Coulson et al., 1977), rather than by funding of research grants from general program announcements, unsolicited grant opportunities, or long-term programmatic research support where researchers themselves defined the specific questions to be studied.

Second, even where social science research has been most active--studying the average gross effects of school desegregation--there has been a serious imbalance of empirical evidence affecting policy deliberations. A limited range of short-term outcomes has been studied to assess the average effects of current desegregation policies (Mills, 1973, 1979). The practical consequence has been to narrow the public policy debates to the few topics where research has been most active.

Although school desegregation has generated hundreds of research studies since the mid-1960s, most have been devoted to two topics: the effects of desegregation as typically practiced on the short-term academic achievement of students, and the change in white enrollments ("white flight") in school districts due to desegregation activities. In contrast to these dominant issues, few studies have examined broader impact questions such as long-term career and adult participation consequences or community institutional outcomes. We have little contemporary reliable evidence on whether students from desegregated elementary and secondary schools have more long-run success in higher education, employment, and income; whether school

desegregation contributes to desegregation progress in colleges, places of work, and neighborhoods; and whether school desegregation experiences have effects on attitudes and behaviors across generations when students become adults and parents.

An apparent danger of this imbalance in school desegregation research is that the questions receiving most research attention have also become the questions receiving most consideration in the policy area, crowding out interest in important topics of costs and benefits that would otherwise be of substance and significance in the public debates. It has frequently been said that social science research is used as "ammunition" in public policy debates by the interests whose arguments it supports. It seems that in the area of school desegregation, research information has been such a powerful weapon that it has actually constrained the debate to topics on which research has something to say.

On the other hand, some have argued that the problem of current social science evidence is not that it encourages premature closure of debate on a limited set of relevant topics, but instead, by offering only continuing rounds of unresolved technical disputes or complex scientific arguments, plays a minor or confusing role in shaping policy debates (Cohen and Weiss, 1976). This point of view can also be exprssed as the third problem of social science evidence in school desegregation debates.

The third problem is that social science studies about school desegregation have rarely been embedded in rich theories of social mobility, community power, or discrimination. Because we use narrow theoretical perspectives to generate research on school desegregation effects, social researchers have failed to direct the policy debates on this issue toward a renewed public interest in the contemporary meaning of traditional Ameri-

can ideals, such as equal opportunity, social justice and individual rights. The absence of richer theoretical perspectives has also separated the school desegregation issue from current policy thinking on social problems such as employment inequalities and discriminations (McPartland and Crain, 1980).

Implicit in most social research is a test of the narrow theoretical rationale that school desegregation changes individuals by improving the competencies of minority students or the racial attitudes of all students. Yet there is growing agreement among social scientists that present theories of adult attainment, which concentrate on individual skills and how they are translated into positions in employment, housing, or higher education, are inadequate. These models fail to explain most of the variance in adult success or to account for some crucial features of current inequalities, such as the continuing concentration of women and minorities in a restricted range of careers and the non-economic housing segregation of blacks and whites but not of other ethnic groups. This suggests some research directions to introduce more sophisticated understandings of contemporary social processes into the debates on the rationale for school desegregation as a public policy. As we shall argue in more detail in the final section of this chapter, frameworks and studies are needed to identify the specific processes that continue to exclude qualified minorities from promising opportunities and to ask whether segregation plays a role in these processes.

Data availability plays an important part in each of the three social science problems identified in the use of social research in school desegregation policy. Practical questions have not been addressed sufficiently because social science surveys have often failed to include measures of the internal practices of racially mixed schools or to carefully sample comparison cases that permit study of alternative desegregation programs.

Evaluations of the effects of current practice have concentrated on narrow short-term student outcomes, because longutudinal data from elementary-secondary school experiences into adult periods of attainment are difficult to obtain. And the typical empirical design that compares experiences of individuals (rather than also contrasting institutional and market processes) invites the restricted theoretical frameworks for thinking about school desegregation impacts.

To more fully appreciate how an expanded research agenda may contribute more useful policy information about school desegregation, it is helpful to examine research on a specific long-term question and to consider how it could contribute to improved policy deliberations. With this in mind, we shall present new research, using recently available longitudinal data, on the effects of elementary-secondary desegregation on the college-going behavior of minority students.

II. Effects of Elementary-Secondary School Desegregation for Minority Students in Higher Education

School desegregation as a social policy question should be decided with the best evidence about the costs and benefits for the major parties involved. What has been largely missing from the deliberations on this issue is clear evidence on the long-run consequences of individual attendance at racially mixed elementary or secondary schools and the eventual community structures that follow experience with school desegregation programs (McPartland, 1978). Instead, as noted, the research evidence has primarily focused on the short-term outcomes for students, such as academic test scores and racial attitude measures, and on the reactions of different publics to the desegregation controversy, such as estimates of white student withdrawals from desegregating schools and surveys of opinion on desegregation

topics. As the debates continue on the future of public programs to foster school desegregation, it is desirable that more attention be given to whether the attainment of racial equity and desegregation in adult life depends to any important degree on the racial character of elementary-secondary schooling.

There are some obvious reasons why social research has not contributed more information on the long term consequences of school desegregation. Besides the conceptual complexities of specifying a model that adequately reflects the major variables operating over an extended time period to explain adult attainments or community developments, the data needed for research on the long-term outcomes of desegregated schooling are very hard to come by. Studies of school desegregation effects on adult attainments and desegregation requires longitudinal information for recent representative samples on individuals' experiences in elementary-secondary schools and their accomplishments several years later.

College experience is the important post-high school outcome for which data are available to seek better research evidence on the adult consequences of school desegregation. In particular, the National Longitudinal Survey of the High School Graduating Class of 1972 provides data for large national samples of students and their college experiences for the five years following high school completion. We will present results from investigations with the black sample from this data source on the relationships between elementary-secondary desegregation and college attainments and college desegregation.[1] There have been a few previous studies on this topic, but these efforts have been hampered by less adequate data sources. These studies include a retrospective survey of black adults, a small scale survey of black college students, some small follow-up studies of unusual

secondary school desegregation experiments, and recent longitudinal surveys of national samples of young adults of both races.

A. Previous Research

In 1966, the U.S. Commission on Civil Rights sponsored a wide-ranging interview survey of 1624 black adults. The respondents recalled whether they attended segregated or desegregated elementary and secondary schools (about 650 had attended desegregated schools) and also reported on their subsequent educational attainments. Although the historical period of the school experiences in this study extended from the 1930s to the early 1960s--the adult survey population was ages 17 to 45 in 1966, living in metropolitan areas of the North and West--these data provided the first measurement of desegregated schooling and later life outcomes for a minority population.

Using these data, Crain (1970) reports that blacks who attended desegregated schools are more likely to have finished elementary and high school and to attend and finish college. Thirty-two percent of Northern-born men from desegregated schools went to college compared to 24 percent of Northern-born men from segregated schools, and the differences for women are small but in the same direction. The sample size of college graduates was very small but also tended to favor blacks from desegregated schools. These analyses controlled on whether birthplace was North or South, at what age the respondent moved North, and parental background measures.

Using data obtained in 1972 from 253 randomly chosen black students attending two traditionally white and two traditionally black colleges (matched on public vs. private control and SMSA location) in the state of Florida, Braddock (1980) related attendance at desegregated high schools to attendance at desegregated colleges. Sex and social class as background

variables along with schooling and achievement factors (high school racial composition and grade point average) and college inducements (academic reputation, financial aid, low cost) were linked in a causal model to the predominant racial type of the college attended. The results indicated that choice of a desegregated college depends on the various types of antecedents, with desegregation practice--the experience of having attended a desegregated high school--manifesting one of the largest direct and total effects. Only high school grades and college cost showed larger unmediated effects. This study, however, was geographically restricted, excluded two-year colleges, and was based on a relatively small sample.

Two studies of small samples of black students who participated in unusual desegregation programs relate college attendance to desegregation before high school. In an otherwise negative assessment of the effects of desegregation experiments, Armor (1972) reviews evaluation studies of the two situations where effects on college attendance were measured and some positive outcomes were noted. Both situations involved small numbers of students and unusual desegregation programs. The METCO program is a voluntary busing program across district lines in metropolitan Boston, for which college data were obtained in 1972 for thirty-two bussed and sixteen control group students (who were siblings of the desegregated students) which represented about two-thirds of the original comparison groups of high school seniors in 1970. Armor reports that the METCO-bussed students were much more likely to start college than the control group, but also had a much higher dropout rate from college. By the end of the sophomore year, Armor reports there were no large differences in college attendance favoring the METCO-bussed students, although the METCO students who remained in college were enrolled in higher-quality institutions (four-year colleges and

universities) than the control group. Pettigrew and others (1973) argue that the positive evidence for the METCO program is stronger than Armor suggests: the dropout rate of METCO students from four-year colleges and universities was no worse than for white students nationally, and large differences continued to favor METCO students enrolled in such institutions (56 compared to 38 percent remained in four-year colleges, and 43 compared to 12 percent remained in universities). A second study reviewed by Armor (1972) that suggests some positive effects on post-high school education is the ABC (A Better Chance) program. This follow-up study in 1971 of the first year of college involved about forty high-ability black students who had participated in the highly selective ABC program of scholarships to predominantly white high-prestige private secondary schools and residential public schools. These forty were matched with a control group of black students of similar background and achievement levels who had applied to the ABC program but who could not be placed due to a cutback in federal funding. All the ABC students entered colleges, as compared to about half the control group, and the ABC students enrolled in considerably higher-quality colleges than the control group. Follow-up data on differential dropout rates were not available for study.

In addition to the data we will report next, two other longitudinal surveys that followed up students after high school have been studied to address questions of desegregation effects on black students' college success. These studies, on the Project TALENT survey and on the Youth in Transition survey, involved very small and unrepresentative samples of black students, so the results do not have much force. However, a continuing longitudinal survey of the high school graduating class of 1972 includes a large representative sample of black students and promises to be an

important source of research data.

In the Project TALENT study, which used 1965 five-year follow-up data from an original 1960 student sample, students were not asked their race in the initial survey. Because the overall response rate was very low (39 percent) to the follow-up that asked for racial identification, there is no way to know either the response rate for blacks or the extent of the bias. From an original sample of over 90,000, only 224 blacks were included in the desegregation study, of whom only 74 had attended desegregated schools. For what it is worth, this study did not find any positive or negative school desegregation influences on post-high school education (Kapel, 1968, 1969). In the Youth in Transition study, comparisons have been made one year after high school between black subsamples of 73 students in desegregated schools, 72 in segregated Northern schools, and 111 in segregated Southern schools. An overall 1970 follow-up rate of 80 percent from a nationally representative sample of 2213 black and white high school students provided these comparison groups. Results suggest that the social mobility processes of desegregated blacks more closely approximate the processes for whites, in contrast to the usual finding of large black-white differences in the importance of academic performance and socioeconomic background for advanced education attainments (Portes and Wilson, 1976).

In all the research reviewed above, the inadequacies of the data are too serious to view the findings as anything more than suggestive. Either the sample size is tiny, the problem of sample attrition is extreme, or the period or location of the sample is highly restricted and unrepresentative of current conditions affecting most black students. Fortunately, national data are now available that are much more appropriate to the task.

B. Evidence from the National Longitudinal Survey

The National Longitudinal Study (NLS) of the High School Graduating Class of 1972 provides data on a large sample of high school students surveyed as seniors in 1972 and later in 1973, 1974, and 1976 (Levinsohn et al., 1978). The sample included over three thousand black respondents, of whom about a thousand attended Northern high schools and two thousand attended Southern high schools. In each region, there appears to be a sufficient sample of students from both segregated and desegregated elementary or secondary schools to examine questions about effects on college attendance. In addition, the follow-up response rates have been unusually good, exceeding 90 percent for each of the three follow-up surveys. On the other hand, there is no way in this study to control for differential high school dropout rates, because only high school seniors were initially sampled, and critical data on achievement test performance in high school are missing for about 30 percent of the sample.

In this section we present our own current research which examines, for black young adults, the long-term effects of elementary-secondary school desegregation on higher educational attainments. This research examines questions of enrollment access, retention, and desegregation in higher education, and extends earlier analyses on this topic with the NLS survey (Eckland, 1979; Crain and Mahard, 1978) by using data that follow students for five years after high school graduation and by refining the variables under study. This involves defining college attendance and completion rates more carefully, making proper distinctions between two-year and four-year institutions, and specifically treating possible bias arising from the omission of significant proportions of the sample due to missing data for some variables. In preparing the data for these analyses, we edited all

cases to establish attendance at a true two-year or four-year college and to identify the racial composition of the colleges attended by each black respondent.

The main question of our studies is whether black students' attendance at desegregated elementary and secondary schools is related to their attendance at college, especially desegregated institutions, after taking into account individual differences in academic qualifications for college and the location of the relevant high schools and colleges. For this purpose, it was first necessary to develop desegregation measures for each educational level.

The student questionnaire provides the basis for the elementary-secondary school desegregation measure. Each student was asked to report the percentage of white students in his or her classes in grades 3, 6, 9, and 12. By scoring each grade "1" if the student reported at least 25 percent white enrollment and summing across the four grades, an index was constructed with values that ranged from 0 to 4 for the number of grades in desegregated elementary and secondary schools. The top panel of Table 1 presents the distribution of black students in the North and South on this measure. These data show that at the elementary-secondary school level, Northern blacks, as expected, have more extensive desegregation experiences. For example, when one considers whether the black students had attended a school with at least a 25 percent white student body during either the third, sixth, ninth or twelfth grades, striking regional differences appear. We see, in the upper panel of Table 1, that Northern blacks (15.4 percent) are five times as likely as Southern blacks (3.0 percent) to have had a desegregated experience throughout both elementary and secondary schools. While this finding is to be expected, it is surprising that Northern blacks (46.6 percent) are somewhat more likely than Southern blacks (43.9 percent) to have

had no desegregation experience at all, in either elementary or secondary school.

Table 1 About Here

To measure college desegregation, it was necessary to merge college racial proportions from the DHEW office of Civil Rights Surveys of Racial and Ethnic Enrollment Data from Institutions of Higher Education with NLS student data. On the NLS follow-up surveys, each student indicated whether he or she was enrolled in college for each of the five years from 1972 through 1976 and gave the name of the college. Each of the colleges named was checked with the Office of Civil Rights survey, to establish whether it was a true two- or four-year college and to code the institution's racial composition for the appropriate year. From these merged data, indices were constructed for each individual student to measure the number of years in college from 1972 through 1976 (with possible values of 0 through 5) and the number of years in desegregated colleges with at least 50 percent white enrollment for the same period (also with possible values 0 through 5). The bottom panel of Table 1 presents the black student distributions on these measures for each region.

Examining the distribution of blacks in higher education, we again find that Northern blacks have had more extensive desegregation experiences. By 1976, for example, the Northern black high school graduate (class of '72) with college experience is nearly twice as likely (44.6 percent) as his Southern counterpart (24.6 percent) to have matriculated at a college or university with greater than 50 percent white enrollment. When the tabulations are presented separately for attendance at four-year and at two-year institutions, the regional differences in desegregation are large for the four-year case only. For black students who have attended four-year institutions, nearly ten times as many in the North experience desegregated

institutions as segregated ones (31.0 percent vs. 3.8). But in the South, where most traditionally black four-year institutions exist, more black students attend majority black colleges than majority white ones (17.6 vs. 14.6). However, in the case of black students who have attended two-year institutions, the regional desegregation differences are not large. Even though two-year college experience is more characteristic of Northern black students, slightly more than half as many have attended mostly black schools as white ones in this region (9.8 vs. 18.3), while in the South slightly less than half as many black students have attended two-year majority black schools as majority white ones (5.7 vs. 12.3 percent).

C. Is Segregation Self-Perpetuating?

The foregoing distributions, across levels and regions, show the diverse exposure of black young adults to desegregated school experience. Our research task is to investigate whether racial segregation is self-perpetuating across educational levels. By examining the segregation-desegregation patterns of students across levels of education, we provide one measure of the success of school desegregation as a national domestic policy aimed at incorporating black Americans into society's mainstream.

We have employed multiple regression analysis to estimate the net or direct effects of elementary-secondary school experience on various measures of black educational attainment, after taking into account family background and academic qualifications for college. The variables to be used, in addition to the desegregation measures already discussed, include:

1. Sex (code: male=0; female=1/North: μ = .56; σ = .25/South: μ = .56; σ = .25).
2. Social class (North: μ = 4.22; σ = 5.29/South: μ = 6.51; σ = 5.63.) The social class measure used in the NLS project is an index which

pools data on parents' education, family income, father's occupation, and the existence of various household items indicative of personal wealth. These components are standardized so that each carries equal weight in the scale.

3. High School Achievement Test scores (North:μ = 44.05; σ = 8.76/ South: μ = 41.80; σ= 8.54). The achievement measure is the scaled reading test score, a subscale of the overall battery of tests developed for the NLS by the Educational Testing Service.
4. High school grades (North:μ = 3.59; σ= 1.25/South:μ = 3.68; σ= 1.34). High school grades are measured by student reports obtained from the base year survey conducted in 1972. Grades are scores on an eight-point scale ranging from "mostly A" = 8 to "below D" = 1.

In our first analyses that include the entire black sample, it is necessary to estimate the net effect of desegregation before high school graduation on attainment in college regardless of the institution's racial composition before the effect on attainment at a desegregated college can be assessed. The case for the perpetuation of segregation across educational levels is made only if the net effect of elementary-secondary desegregation is substantially greater for desegregated college attainment than for college attainment in general.

Table 2 presents a summary of the results of the multiple regression analyses for the full model by region. To facilitate comparisons across

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Table 2 About Here

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regional groups for the same equations, unstandardized or metric regression coefficients are presented along with the standardized regression coefficients (partial betas) for comparisons of effects within regional groups.

Coefficients are estimated when the dependent variable is years of attainment in college and when the dependent variable is years of attainment in desegregated colleges.

Examining, first, years of attainment in any college we see that the standardized partial betas indicating the effect of school desegregation net of controls for sex, background, and academic qualifications is rather small in both the South (B = .02; F = .04; n.s.) and the North (B = .09; F = 3.2; p <.10). However, the effect in both regions is positive and it approaches statistical significance in the North. Comparing the metric coefficients reveals that the effect of school desegregation on college attainment in the North (.102) is more than two-and-one-half times as great as in the South (.040). Within both regions, however, social class background and academic qualifications are clearly the major determination of years of college attainment.

We turn our attention next to the main dependent variable in this analysis--years of attainment in a predominantly white college. Examining the second column of Table 2 we see that the net effect of elementary-secondary school desegregation on years of attainment in a predominantly white college is positive and significant in both the South (B = .15; F = 11.1; p <.001) and the North (B = .11; F = 5.1; p <.05). Moreover, in the South, early school desegregation experience appears to be of roughly equal importance to social class background and academic qualifications as determinants of years of attainment in desegregated colleges. In the North, as with years of attainment in any college, achievement test scores are shown to be the major determinant of years of attainment in a predominantly white college followed by high school grades, school desegregation, and social class background. Sex appears to be inconsequential to years of

attainment either in a predominantly white college or in any college. Comparing the metric coefficients for elementary-secondary school desegregation in the South (.171) and the North (.119) reveals that the impact of the early desegregation experience on years of attainment at a desegregated college is roughly 40 percent greater in the South than in the North.

But the comparison between the two columns of Table 2 for the different dependent variables is important for understanding the role of early desegregation on black students' college experiences in each region. This comparison shows that the effect of elementary-secondary desegregation in the South is primarily on the racial character of the college attended; while in the North the effect is primarily on college attendance per se, with only minor additional influence toward attendance at desegregated colleges. This inference is arrived at by comparing the beta coefficients for the elementary-secondary desegregation variable in the equation for "years of attainment in college" and in the equation for "years of attainment in desegregated college": .02 versus .15 in the South, .09 versus .11 in the North.

Still, the overall effect is the same in both regions, with early school desegregation experiences encouraging later desegregated experiences in college, even though the mechanisms of this influence are different. In the South, where there are many more segregated colleges due to the existence of the traditionally black institutions, black students will more often face a choice of either majority black or majority white college options than in the North. In the South, black students from desegregated elementary-secondary schools are substantially more likely to opt for the desegregated majority white college, controlling for their academic qualification and family background. On the other hand, in the North, there are many fewer majority black college options available. So if a black student goes to

college at all in the North, he or she is much more likely to enter a desegregated one in this region, given the relative availability of majority white institutions and unavailability of majority black institutions. Because attendance at a desegregated elementary-secondary school in the North increases a black student's chances of attending some college, it therefore also indirectly increases the chances of attendance at desegregated colleges. Moreover, early school desegregation in the North appears to provide a small additional direct influence toward the choice of attendance at a desegregated college.

D. Comparison of Black Students in Two-year and Four-year Colleges

It is useful to focus separately on two-year and four-year college students in each region, because we observed in Table 1 that attendance by black students in segregated and desegregated higher education institutions differed markedly by region and type of college. We had noted that (1) the use of two-year institutions was more characteristic of black students in the North than in the South; (2) for two-year black college students in both regions, about twice as many had attended predominantly white as had attended predominantly black institutions; (3) for four-year black college students, only the South had a sufficient number of predominantly black institutions to offer an alternative between segregated and desegregated college experiences for a sizable proportion of black students in the region. Thus, given that a black student chooses to enter college, the potential for earlier school desegregation to have an additional direct effect on the selection of a segregated or desegregated college depends upon the region and type of college: The potential exists for two-year college students in both regions (even though the overall use of two-year colleges is more characteristic of the North), but the potential exists

for four-year colleges in the South only.

For these analyses of the direct effect for black students of elementary-secondary desegregation on desegregation in two-year or four-year colleges, we restrict our attention to only those students who have actually attended those colleges. Thus, in examining effects for two-year college students, our subsample excludes all students who never entered college or who attended four-year institutions only (N = 329 in the North, 331 in the South). In examining effects for four-year college students, our subsample excluded all students who never entered college or who attended two-year institutions only (N = 418 in the North, 626 in the South).

Table 3 About Here

Table 3 summarizes the multiple regression analyses for each region and college type subsample. In addition to the measures of background and academic credentials used in Table 2 (sex, SES, high school tests, and high school grades), we have added two variables to these analyses to control on the proximity of each student's high school to the college attended. These added variables take into account the possibility that students from desegregated high schools will reside in local areas where desegregated colleges are more available. One of these proximity measures assigns a score of "1" to students whose high school and college are in the same zip code area ("0" otherwise), and the second proximity measure assigns a score of "1" to students whose high school residence is within commuting distance of their college ("0" otherwise).

Making comparisons in each region between different types of colleges, we determine from Table 3 that the positive direct effect for black college students of early desegregation on college desegregation is greatest for

two-year students in the North and for four-year students in the South. The only highly significant coefficient for the early desegregation effect is in the four-year South case. But there is also a noticeable direct effect in both regions for two-year students, of about the same magnitude in the North and South, that approaches statistical significance in the North.

Because we have restricted our attention to subsamples of students who have actually gained admission to two- or four-year colleges, the background and academic qualifications measures are not as strongly predictive as in the previous table. Still, for four-year college students, it is clear that the combination of SES, high school achievement tests, and high school grades are important determinants of attendance at predominantly white institutions. On the other hand, for two-year college students, these variables are of little importance in the desegregation process, but the residential convenience of the institution does have some relationship.

E. The Incremental Effect of Each Additional Year of Earlier Desegregation

Bringing together the conclusions from all three tables, we see how the direct and indirect effect of early school experiences on the perpetuation of segregation across educational levels depends upon the region and type of school. In the North, the chances are good that a black student will experience a desegregated college environment if he or she goes to college at all: In this region there are few segregated four-year institutions and twice as many opportunities for desegregation than segregation among two-year institutions. In this region, there is a significant indirect effect of early desegregation on college desegregation due to the improved chances of attending some college, which usually means a desegregated college. There is also a noticeable direct additional effect in the North to enhance the chances of desegregation among two-year college students who had attended desegregated elementary and secondary schools.

In the South, on the other hand, the opportunities for college desegregation are not as automatic if a black student is college-bound, due to the presence of a large number of majority black four-year institutions. But, in this region, the direct effect of elementary-secondary desegregation is highly significant for black students' desegregation at the four-year level.

A final table is presented to show the overall effect on black student attendance at majority white higher education institutions due to different numbers of years in desegregated elementary and secondary schools. Table 4 shows the estimated probability of enrollment at majority white colleges for the average black student with zero through four years of earlier desegregation.

Table 4 About Here

These estimates have been standardized for individual differences in background and high school academic qualifications. Except for a few minor reversals across the categories, there is a general additive incremental effect on attendance at desegregated colleges from each extra year of earlier experience in desegregated elementary or secondary schools. And a comparison of the extreme categories shows how the probability of desegregated college enrollment is increased for the average black student by moving from no earlier desegregation to desegregation throughout elementary and secondary grades: the probability increased by .094, .104, .075, and .168 in Northern two-year colleges, Northern four-year colleges, Southern two-year colleges, and Southern four-year colleges, respectively.

III. Implications for Future Research

These results are important in their own right for raising the prospect that further research on adult outcomes will increase our ability to

evaluate the true costs and benefits of current school desegregation policies. Our evidence that desegregation before high school graduation has direct and indirect effects on minority college attainments and college desegregation provides reason to believe that other adult outcomes, such as employment or housing attainments, may also be significantly influenced by racial experiences in elementary and secondary schools (McPartland, 1978). Consequently, future research should study a variety of long-term outcomes of school desegregation to open the policy debates to a broader consideration of the future consequences of continuing or withdrawing from current practice.

These results also suggest the kinds of research questions that can be derived from school desegregation issues to generate a richer theoretical framework for public policy deliberations. In particular, when we inquire about the social and institutional mechanisms that may underlie the findings presented above, but which cannot now be easily studied with the data at hand, some new directions for future research can be proposed.

F. Developing Frameworks for Policy Debates

Research is needed to introduce more sophisticated understandings of contemporary social processes into the debates on the rationale for school desegregation as a public policy. In particular, (1) we need to identify the specific processes that continue to exclude qualified minorities from promising opportunities, and to ask whether segregation plays a role in these processes; and (2) we need to compare the behavior of institutions as well as the experiences of individuals in our attempts to explain problems of minority social mobility and segregation. The first is an example of social scientists' responsibility to develop better theories; the second is an example of researchers' need to develop more appropriate scientific methodologies.

1. Studies of Sp ·ic Exclusionary Processes

The dominan· ·ework for current thinking about the problem of race, sex, and ethnic inequalities is the social scientists' "status attainment model" that considers how individual resources of personal skills or capital are translated into positions in the employment, housing, or higher education systems. But there is growing agreement that these theories fail to explain adequately adult differences in attainments or to account for some crucial features of current inequalities.

Still, these theories continue to generate the major public policy approaches for dealing with inequalities in social mobility. Most current public programs are intend·l either to upgrade the skills and resources of minorities to help them compete at higher level· or to eliminate overt discrimination where offici·ls unfairly withhold positions from qualified minorities in the relevant markets. But there is good evidence that unequal resources and overt discrimination are only part of the problem, and other factors are often at work to inhibit minorities from ever appearing in the first place as applicants for the most promising opportunities. One reason greater progress has not been made in formulating policies to deal with these factors is the lack of research to identify and directly measure specific processes that may deprive minorities of opportunities used by others to get ahead. A characterization of the indirect way that social scientists have usually dealt with problems of "discrimination" and "social inertia" helps to make this clear.

Social scientists have been primarily interested in indirectly testing for the existence of "discrimina·ion," rather than directly specifying the processes which may unfairly exclude minorities from opportunities and estimating the relative importance of different exclusionary processes.

Up to now, discrimination has been indirectly measured as the residual gap between the occupational success of blacks and whites after individual differences in job credentials or competencies and labor market locations have been statistically taken into account. In addition to a number of methodological problems with such residual analyses, nothing is learned from this work about the specific character and mechanisms of discrimination, because discrimination is not directly conceptualized and measured. Indeed, the use of the word discrimination invites narrow thinking about only overt forms of behavior by officials who unfairly withhold jobs, housing, capital, or educational opportunities from minority applicants. Other generalities used by social scientists to account for the racial gaps, such as the "luck" of being in the right place at the right time, also fail to generate specific ideas on new ways to attack the problems.

Moreover, there are other impressive descriptive findings about the employment, housing, and educational distributions of minorities that indicate the existence of "social inertia" in mobility processes that cannot be explained well by current theories. Minorities continue to be concentrated in a restricted range of "traditional" occupations which pay off less for each additional year of education--for example, minorities are heavily overrepresented in social service occupations but not in entrepreneurial or scientific ones (McPartland and Crain, 1980). Blacks are also highly concentrated in segregated neighborhoods, but differences in economic resources do not explain these segregated housing patterns for blacks nearly as well as they do for any other ethnic minority groups (Orfield, 1980). Enrollments in two- and four-year colleges also remain highly segregated, and racial differences in entrance qualifications are unlikely to explain these patterns, especially at the two-year college level. The dominant social

science status attainment model fails to directly account for these signs of inertia in recent social change. Nor do other social science generalities --about the "residue of past discrimination" or about differences in personal preferences--help us to accurately understand the processes that inhibit minorities from taking full advantage of their improvements in personal resources or the decreases in overt discrimination.

Research is needed to identify specific exclusionary processes that go beyond lack of resources and the presence of overt discrimination, to explain continuing racial and ethnic differences in social mobility. For example, we need to understand if there are significant differences in particular social networks of opportunity that provide useful information, contacts and sponsorship for employment, housing and educational competition. We need to study how early experiences in "nontraditional" careers, neighborhoods, and schools influences perceptions and aspirations about future destinations. And we need to learn whether "human ecology" variables, such as the segregation of minorities into racially isolated schools and neighborhoods, influence the pace of minority social change through access to useful social networks or through realistic exposure to new opportunities.

2. More Appropriate Scientific Methodologies

If research is to contribute to better frameworks for social policy by developing new knowledge of the specific exclusionary processes or motivating experiences that make a difference, we need methodologies for studying institutions as well as individuals. For most of our current knowledge, social scientists have studied individual persons to compare how career outcomes depend upon differences in resources and experiences and have used well-developed methods for sampling and surveying the individuals being compared. With few exceptions, social scientists have not compared

institutions to try to explain why some settings have more success than others in attracting and placing minority individuals, and they do not have clear methodologies for choosing samples or measuring variables at the institutional level.

Methods for conducting comparative institutional research will be valuable for enriching our theories of exclusionary processes and the role of desegregation in opportunity structures. For example, to study the importance of social networks of job information, contacts, and sponsorship, it is important to not only compare the job search behavior of individuals, but also to contrast the recruitment and placement methods of firms with different minority representations. Also, to understand how earlier experiences with desegregated environments may change responsiveness to future desegregation, it is helpful to compare institutions as well as individuals. We need studies of the adult behavior of individuals from segregated and desegregated school origins, but we also need to compare institutions with different desegregation histories to learn whether different perceptions and reputations have developed concerning the treatment of racially mixed memberships.

The dominant research focus on individual comparisons has also affected the narrow rationale for school desegregation in public debates. These debates have primarily concerned whether desegregation changes individuals, either by improving minorities' academic skills or by reducing racial prejudice and stereotypes among students. Phrased in this way, the arguments about school desegregation rationale have developed unusual alliances and divisions among the interest groups primarily concerned with goals of reducing minority inequalities and discrimination (Hamilton, 1973). Aside from effects on individuals, the debates have rarely considered how segre-

gation may be linked to the structure of opportunities or to processes that channel minorities into traditional adult roles and locations. But if research is to contribute policy arguments from broader rationales, social scientists need to expand their methods to permit comparisons of institutions and organizations.

This is to suggest that if future school desegregation research is to encourage a broader framework for policy deliberations it needs to be more oriented toward theory development than simply toward testing a series of unconnected hypotheses about effects on a list of outcomes with little attention to the sociopsychological or structural mechanisms of influence. Indeed, it may make good sense to begin with other social problems questions--such as the sources of social inertia in racial segregation or the specific processes of minority exclusion that substitute for overt discrimination--and then to ask how early school desegregation may play a role, rather than begin the other way around. We do not now have well-articulated theories of why school desegregation may have short- or long-term consequences for students, and future research is likely to be limited in its scientific creativity and practical usefulness until it is directed toward developing and testing explicit causal theories.

Notes

1. We are not unaware of or insensitive to the potentially problematic policy implications of characterizing traditionally white colleges with generally less than 10 percent black (or minority) enrollment as desegregated while traditionally black colleges with similar proportions of non-black students are viewed as segregated. However, the term "desegregated college" is used here mainly for heuristic purposes and to maintain consistency with the existing desegregation literature. In this paper, college desegregation is operationalized categorically as either majority (< 50 percent) white or majority (< 50 percent) black. The net result is primarily a distinction between traditionally white and traditionally black colleges and universities since there are few majority white or majority black institutions which no longer reflect their historical origins in both student and faculty racial composition.

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Table 1

Desegregation* of Black Students in Education:
Percentage Distributions in Elementary-Secondary Schools and Colleges of Different Racial Compositions, by Region

		Region					
		North (N=1169)		South (N=1945)		Nation (N=3119)	
Elementary-Secondary Schools-							
For grades 12, 9, 6, 3:							
Number of grade levels in desegregated schools							
	0		46.6		43.9		45.0
	1		12.6		31.2		24.2
	2	53.4	15.9	56.2	17.5	55.0	16.9
	3		9.5		4.5		6.3
	4		15.4		3.0		7.6
	Average		1.345		0.915		1.075
Colleges and Universities-							
From 1972 through 1976:							
Number of years attending desegregated Two-year or Four-year institutions							
No College =	0		44.6		55.9		51.7
Trad. Black College Only =	0		10.8		19.5		16.2
	1		13.2		8.6		10.3
	2	44.6	11.4	24.6	7.1	32.0	8.7
	3		6.6		3.4		4.6
	4		7.2		3.3		4.7
	5		6.2		2.2		3.7
	Average		1.157		0.572		0.790
Number of years attending desegregated Four-year institutions							
No 4-Year College =	0		64.2		67.8		66.5
Trad. Black 4-Year College	0		3.8		17.6		12.8
	1		8.6		4.2		5.8
	2	31.0	6.9	14.6	3.9	20.7	5.0
	3		5.0		2.4		3.4
	4		5.5		2.6		3.7
	5		5.0		1.5		2.8
	Average		0.843		0.371		0.547
Number of years attending desegregated Two-year institutions							
No 2-Year College =	0		71.9		83.0		78.8
Trad. Black 2-Year College =	0		9.8		5.7		6.6
	1		8.9		6.4		7.3
	2	18.3	6.6	12.3	4.6	14.5	5.3
	3		2.1		0.9		1.3
	4		0.7		0.4		0.5
	5		0.1		0.1		0.1
	Average		0.314		0.201		

*Elementary-secondary schools are defined as desegregated with at least 25 percent white enrollment; colleges and universities are defined as desegregated with at least 50 percent white enrollment.

Table 2

Summary of Multiple Regressions of College Attainment on Student Background and Academic Credentials, for Black Students, by Region

Region and Independent Variables	Dependent Variable: Years of Attainment in College			Years of Attainment in Desegregated College		
	Metric	Beta	F	Metric	Beta	F
South (N=1945)						
Sex	.106	.03	0.5	.066	.03	0.4
SES	.068	.23	28.9***	.034	.16	12.9***
H.S. Test	.046	.24	27.7***	.023	.16	12.1***
H.S. Grades	.229	.19	16.6***	.126	.14	8.8**
El-Sec Deseg	.040	.02	0.4	.171	.15	11.1***
	R^2 = .211			R^2 = .134		
North (N=1169)						
Sex	-.021	-.01	0.0	-.058	-.02	0.1
SES	.041	.13	6.1*	.032	.10	4.1*
H.S. Test	.057	.29	29.7***	.051	.28	27.5***
H.S. Grades	.192	.14	7.4**	.212	.17	10.5**
El-Sec Deseg	.102	.09	3.2	.119	.11	5.1*
	R^2 = .178			R^2 = .178		

***$p < .001$
** $p < .01$
* $p < .05$
F with 1 and ∞ degrees of freedom is the test statistic for the statistical significance of the addition to R^2 by adding the independent variable to a regression equation that includes all other independent variables (i.e. "unique contribution to R^2").

Table 3

Direct Effect of Elementary-Secondary Desegregation on Attainment at White Colleges for College-Bound Black Students, by Region and College Type

Region and Independent Variables	College Type: Two-Year College Students			Four-Year College Students		
	Metric	Beta	F	Metric	Beta	F
North						
Sex	-.073	-.03	0.13	.056	.02	0.06
SES	.014	.07	0.53	.007	.02	0.13
H.S. Test	-.002	-.01	0.02	.046	.25	11.02**
H.S. Grades	.064	.07	0.62	.156	.12	2.82*
Proximity 1	.046	.22	5.26**	.130	.04	0.33
Proximity 2	.262	.08	0.78	.282	.08	1.33
El-Sec Deseg.	.115	.16	2.98*	.009	.01	0.17
		N=329			N=418	
		R^2=.085			R^2=.116	
South						
Sex	-.153	-.08	0.51	.167	.05	0.84
SES	.010	.06	0.34	.032	.13	5.64**
H.S. Test	-.015	-.13	1.51	.017	.09	2.51
H.S. Grades	.013	.02	0.02	.226	.18	9.35**
Proximity 1	.397	.20	3.37*	.190	.06	1.08
Proximity 2	.139	.06	0.33	.026	.01	0.02
El-Sec Deseg.	.133	.14	1.93	.391	.26	21.70***
		N=331			N=626	
		R^2=.082			R^2=.154	

***p <.001
**p <.05
*p <.10

Table 4

Net Probability* of Enrollment at Desegregated College for Black Students With Different Elementary-Secondary School Experiences, by Region and Type of College

	Number of Grade Levels in Desegregated Elementary-Secondary Schools				
	0	1	2	3	4
North (N=1169)					
Two-Year College	.143	.198	.168	.298	.237
Four-Year College	.272	.320	.342	.339	.376
South (N=1945)					
Two-Year College	.100	.120	.168	.164	.175
Four-Year College	.111	.146	.190	.209	.279

* Estimates are calculated by substituting appropriate values of X_i into the least squares equation ($y = a + \sum_{1}^{8} b_i X_i$) obtained by regressing attendance (scored 1 or 0) in a desegregated two- or four-year college on sex, SES, high school achievement test, high school grades, and four dummy variables for the number of grade levels in desegregated elementary — secondary schools. Population averages are substituted into the equation for the first four variables, while values of 0 or 1 are substituted for the dummy variables to obtain the estimated probabilities.